

## **901:10-2-01 Permit to install: purpose and applicability.**

(A) Purpose and applicability of a permit to install.

(1) No person shall construct a new concentrated animal feeding facility without first obtaining a permit to install issued by the director.

(2) Any person who plans to construct a large concentrated animal feeding operation or a concentrated animal feeding facility or major concentrated animal feeding facility shall comply with applicable rules 901:10-2-01 to 901:10-2-06 of the Administrative Code.

(3) Any animal feeding facility that is a small or medium concentrated animal feeding operation may be required by the director to comply with applicable rules 901:10-2-01 and 901:10-2-03 to 901:10-2-06 of the Administrative Code.

(a) If the director has made a determination that the medium or small animal feeding facility shall be required to be permitted as a medium or small concentrated animal feeding operation; and

(b) If the director determines that the existing animal feeding facility requires modifications in order to comply with best management practices.

(4) A person that is required to obtain both a permit to install pursuant to section 903.02 of the Revised Code and a permit to operate pursuant to section 903.03 of the Revised Code shall submit both applications for those permits simultaneously.

(B) Administrative procedures for a permit to install.

(1) In order to obtain a permit to install, the owner or operator shall submit:

(a) A properly completed application in accordance with paragraph (C) of this rule; and

(b) An appropriate fee as stated in rule 901:10-1-04 of the Administrative Code.

(2) The owner or operator may amend the application for a permit to install prior to the conduct of any public meeting that may be held for the draft permit to install and/or while the permit to install application is pending before the director.

(3) The owner or operator shall notify the department prior to beginning actual construction of the manure storage or treatment facility.

(4) Upon completion of construction of the manure storage or treatment facility, the owner or operator shall submit a notarized statement certifying that the facility was constructed in accordance with the as-built plans to the department. As-built plans shall be provided and signed by a professional engineer if the design plans require a professional engineer as described in paragraph (A)(1) of rule 901:10-2-05 or paragraph (A) of rule 901:10-2-06 of the Administrative Code.

(a) A copy of the completed and approved as-built plans shall be submitted to demonstrate compliance with paragraph (A) of rule 901:10-2-05 or paragraph (A) of rule 901:10-2-06 of the Administrative Code and shall be submitted for the permanent record.

(b) In addition to as-built plans, the following shall be submitted where applicable as part of the construction or permit to install:

- (i) Any soils investigations, compaction testing, soil bearing confirmation or lab analyses as required by plans.
  - (ii) Pictures demonstrating construction specifications were followed.
  - (iii) Daily log of construction activity including dates, weather conditions, and work completed.
  - (iv) Documentation demonstrating concrete mix and concrete construction was in accordance to approved plans
  - (v) Any other construction documentation that is required by the approved set of engineering plans or in the permit to install.
- (c) After submitting a copy of the completed as-built plans and after the facilities are inspected by the director or an authorized representative as required by this rule, an authorized representative of the director will issue authorization to stock animals or use a new manure storage or treatment facility and to thereby commence operations in accordance with any permit to operate issued for the facility. Facilities are required to be inspected by the director or an authorized representative in a timely manner prior to stocking with animals or using any new manure storage or treatment facility.
- (5) The owner or operator shall maintain a copy of the current permit to install issued by the department at the concentrated animal feeding facility's site office. A copy of the as-built plans will be kept at the office of the facility.
- (6) A permit to install may be modified in accordance with rule 901:10-1-09 of the Administrative Code. The owner or operator shall not modify the concentrated animal feeding facility without obtaining a permit modification.

(C) Contents of an application for a permit to install.

Unless otherwise indicated, an application for a permit to install shall contain the information and criteria as required in rules 901:10-1-02 and 901:10-1-03 of the Administrative Code and shall attach and/or include all of the following information:

- (1) The name and address of the applicant, of all partners if the applicant is a partnership or of all officers and directors if the applicant is a corporation and of any other person who has a right to control or in fact controls management of the applicant or the selection of officers, directors or managers of the applicant.
- (2) The type of livestock and the number of animals that the concentrated animal feeding facility would have the design capacity to raise or maintain and the anticipated beginning and ending dates for work performed.
- (3) A statement of the quantity of water that the concentrated animal feeding facility will utilize on an average daily and annual basis, a detailed description of the basis for the calculation utilized in determining the quantity of the water utilized and a statement identifying the source of the water.
- (4) Copies of recorded water well logs on file with the Ohio department of natural resources division of water and their locations within a one thousand foot radius of the manure storage or treatment facility, as stated on a map that includes the well locations.
- (5) A scaled map adequate to show detail that includes, but is not limited to:
  - (a) Approximate overall dimensions of the manure storage or treatment facility;

(b) Boundaries of the concentrated animal feeding facility;

(c) Location and siting distances from the manure storage or treatment facility. For purposes of identifying and illustrating the siting criteria, the owner or operator of a large concentrated animal feeding operation a concentrated animal feeding facility or a major concentrated animal feeding facility is to submit a document that demonstrates compliance with the siting criteria in rule 901:10-2-02 of the Administrative Code; and

(d) Identify the approximate location of all known subsurface drains within one hundred feet of the proposed manure storage or treatment facility.

(6) The report required by paragraph (C) of rule 901:10-2-03 of the Administrative Code, including the information on the soils, ground water sampling and analysis, hydrology, subsurface geology and topography of the land area used for the manure storage or treatment facility based on the subsurface geological exploration conducted in accordance with rule 901:10-2-03 of the Administrative Code. The report may also include site-specific information and conclusions derived from the site's subsurface geological exploration. If required as a result of the subsurface geological exploration conducted pursuant to rule 901:10-2-03 of the Administrative Code, additional groundwater monitoring shall be included.

(7) Designs, plans and detailed engineering drawings for the proposed construction of the concentrated animal feeding facility that comply with rules 901:10-2-04 , 901:10-2-05 and /or 901:10-2-06 of the Administrative Code and include the proposed location of the construction site, and design and construction plans and specifications, including anticipated beginning and ending dates for the work performed.

Comment: Include detailed engineering drawings, for example; cross sections, pipe requirements, concrete or earthwork specifications, illustrations and profiles for construction of the manure storage or treatment facility.]

(8) The precipitation runoff and stormwater grading plans required by rule 901:10-2-04 of the Administrative Code.

(9) Manure characterized in accordance with rules 901:10-2-04 and 901:10-2-10 of the Administrative Code.

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## **901:10-2-02 Permit to install: siting criteria.**

Manure storage or treatment facilities shall be designed and constructed in accordance with the criteria in paragraphs of (A) to (N) of this rule. In this rule siting means a measure of horizontal or vertical distance for purposes of installing the manure storage or treatment facility.

(A) Water wells and/or class five agricultural drainage wells together hereinafter are referred to as "well".

(1) A fabricated structures shall be at least fifty horizontal feet from a well.

(2) A manure storage pond or manure treatment lagoon shall be at least three hundred horizontal feet from a well.

(B) Source water protection for public water systems.

(1) Public water wells.

(a) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located within three hundred feet of a well serving a public water system that is owned or operated by the owner or operator of the facility and is a public water system located on the property of the owner or operator of the facility.

(b) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located within the one-year time-of-travel contour from a well for which the Ohio environmental protection agency has delineated or endorsed a ground water source protection area and that serves a non-community water system not listed in paragraph (B)(1)(a) of this rule. If no ground water source protection area has been delineated or endorsed, then the fabricated structure, manure storage pond, or manure treatment lagoon shall not be located closer than three hundred feet from the well.

(c) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located within the one-year time-of-travel contour from a well for which the Ohio environmental protection agency has delineated or endorsed a ground water source protection area and that serves a community water system not listed in paragraph (B)(1)(a) of this rule or one thousand feet from a public water well whichever is greater.

(d) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located between the one-year and five-year time-of-travel contours from a well identified as highly susceptible unless additional ground water monitoring, or additional engineered controls or both are added, installed, and implemented as approved by the director.

(2) Surface water intake.

(a) A fabricated structure shall be located no closer than one thousand five hundred feet from a surface water intake.

(b) A manure storage pond or manure treatment lagoon shall be installed no closer than one thousand five hundred feet from a surface water intake.

(3) Streams.

(1) Fabricated structures.



(a) A fabricated structure on a concentrated animal feeding facility shall be located a minimum of one hundred twenty horizontal feet from a stream, unless additional design criteria are added, installed, and implemented as approved by the director.

) A fabricated structure on a major concentrated animal feeding facility shall be located a minimum of three hundred horizontal feet from a stream, unless additional design criteria are added, installed, and implemented as approved by the director.

(2) A manure storage pond or manure treatment lagoon.

(a) A manure storage pond or manure treatment lagoon on a concentrated animal feeding facility shall be located a minimum of three hundred horizontal feet from a stream, unless additional design criteria are added, installed, and implemented as approved by the director.

(b) A manure storage pond or manure treatment lagoon on a major concentrated animal feeding facility shall be located a minimum of six hundred horizontal feet from a stream, unless additional design criteria are added, installed, and implemented as approved by the director.

(D) Cold water habitat and seasonal salmonid streams.

(1) A fabricated structure shall be located a minimum of three hundred horizontal feet from a cold water habitat or seasonal salmonid stream, unless additional design criteria are added, installed, and implemented as approved by the director.

(2) A manure storage pond or manure treatment lagoon shall be located a minimum of six hundred horizontal feet from a cold water habitat and seasonal salmonid stream, unless additional design criteria are added, installed, and implemented as approved by the director.

(E) Aquifer.

A fabricated structure, manure storage pond or manure treatment lagoon shall have fifteen vertical feet of low permeability material, between the waste placement location and the uppermost aquifer, unless additional design criteria or groundwater monitoring, or both, are added, installed, and implemented as approved by the director.

(1) If additional design criteria or groundwater monitoring are added, installed or implemented, the manure storage pond or manure treatment lagoon shall have a minimum of five vertical feet of low permeability material, between the waste placement surface and the uppermost aquifer.

(2) As used in this rule and in Chapter 901:10-2 of the Administrative Code, low permeability material means low permeability among the soil types of geologic material presented in figure 7-11, Chapter 7, "Geologic and Ground Water Considerations," part 651, "Agricultural Waste Management Field Handbook," August 2010.

(F) Sole source aquifer.

A manure storage pond or manure treatment lagoon shall not be located above a sole source aquifer without design of ground water monitoring or engineered controls or both that are installed and implemented as approved by the director.

(G) Floodplains and floodways.

(1) The production area of a facility shall not be located in a one hundred year floodplain, as those

boundaries are shown on the applicable maps prepared under the "National Flood Insurance Act of 1968," 82 Stat. 572, 42 U.S.C.A. 4001, as amended, without design of additional monitoring or engineered controls or both that are installed and implemented as approved by the director and in accordance with the following.

(a) The manure storage pond or manure treatment lagoon embankments and any wall of a fabricated structure shall be designed and constructed to withstand the hydrostatic pressures from a one hundred year flood that may be exerted on the embankments or walls during a flood event;

(b) The elevation of the top of the manure storage or treatment facility shall be at the summation of the elevation of the one hundred year flood plus a minimum freeboard height of two feet;

(c) Any monitoring wells installed pursuant to this rule shall be physically protected from the floodwaters.

(2) A manure storage pond or manure treatment lagoon or fabricated structure shall not be located in established regulator floodways as designated by the federal emergency management agency.

(H) Karst areas.

A fabricated structure, manure storage pond or manure treatment lagoon shall not be located in a karst area without design of groundwater monitoring or engineered controls or both that are installed and implemented as approved by the director.

(I) Bedrock.

A fabricated structure, manure storage pond or manure treatment lagoon shall be located a minimum of three feet, between the bottom of the waste placement location and bedrock where no aquifer is present.

(J) Mines.

A manure storage or treatment facility shall not be located in an area of potential subsidence, due to an underground mine known to be in existence prior to the date the application for a permit to install is submitted, without design of groundwater monitoring or engineered controls or both that are installed and implemented as approved by the director.

(K) Property lines, which are defined in this paragraph as property lines not under common ownership of the owner or operator of a facility covered by this rule and public roads.

A fabricated structure, manure storage pond or manure treatment lagoon shall be located no closer than one hundred horizontal feet from a property line or public road.

(L) Neighboring residences.

(1) A manure storage or treatment facility for solid manure at a concentrated animal feeding facility shall be no closer than five hundred horizontal feet from any neighboring residence.

(2) The manure storage or treatment facility for solid manure at a major concentrated animal feeding facility shall be no closer than one thousand horizontal feet from any neighboring residence.

(3) A manure storage or treatment facility for liquid manure at a concentrated animal feeding facility shall be no closer than one thousand horizontal feet from any neighboring residence.

(4) A manure storage or treatment facility for liquid manure at a major concentrated animal feeding facility

shall be no closer than two thousand horizontal feet from any neighboring residence.

(5) When utilizing proven technology, the siting criteria may be reduced by the director by using the list of technologies appended to this rule. The technologies listed in this appendix are not inclusive of all available technologies. Selected technologies are required to be fully described in detail plans and specifications, engineering drawings, and maps that shall be reviewed and approved by the director in deciding whether or not to reduce any applicable siting criteria as a reasonable exercise of the director's discretion.

(M) The siting criteria requirements applicable to a manure storage or treatment facility shall not apply to the criteria set forth in paragraphs (K) and (L) of this rule if the applicant for a permit to install obtains a written agreement from all of the owners of neighboring residences or property owners located closer than the siting criteria.

The agreement shall state such owners are aware of the proposed construction and have no objections to such construction. A copy of the written agreement shall be included with the permit to install application. The written agreement may be filed in the register of deeds office of the county in which the neighboring residence is located.

(N) As used in this rule, additional design for engineered controls includes but is not limited to additional freeboard, secondary containment, additional treatment, increased liner thickness, synthetic liner materials, groundwater monitoring, or design and construction alternatives set forth in paragraph (A)(9)(c) of rule 901:10-2-06 of the Administrative Code.

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## **901:10-2-03 Geological explorations.**

(A) Fabricated structures - A subsurface geological exploration shall be completed for fabricated structures as described below:

(1) For fabricated structures storing solid manure.

(a) Evaluate the suitability of the soil to provide the appropriate load bearing strength for the proposed fabricated structure by use of a soil survey or by a geological exploration conducted in accordance with this rule. The director may require on-site subsurface geological explorations depending on the soil survey, depth of the structure to be installed below existing grade and type of structural loading of the fabricated structure.

(2) For fabricated structures storing liquid manure.

The subsurface geological exploration and report shall be completed under the supervision of an engineering geologist or a professional engineer, and shall be in compliance with, and describe, the following:

(a) The subsurface geological exploration shall include a minimum of three test pits or borings. The test pits or borings must be at regular intervals and within a reasonable distance of the boundaries of the proposed fabricated structure. Additional test pits or borings may be required by the director or the professional engineer or engineering geologist .

(b) The test pits or borings shall extend a minimum of five feet below the planned bottom of the fabricated structure. In addition, a representative number of test pits or borings shall extend deep enough to determine if the fabricated structure meets the siting criteria from the uppermost aquifer described in rule 901:10-2-02 of the Administrative Code. Upon completion, any boring or pit used for sampling shall be properly plugged and sealed.

(c) The classification of the soil material shall be provided, as set forth in the appendix to this rule.

(d) The in-situ hydraulic conductivity of the soil material shall be determined, based on lab results, within five feet below the planned bottom of the fabricated structure.

(e) The subsurface geological exploration shall evaluate the suitability of the soil to provide the appropriate load bearing strength for the proposed fabricated structure as set forth in the appendix to rule 901:10-2-05 of the Administrative Code.

(f) The subsurface geological exploration shall determine soil strength values so that lateral earth pressures can be calculated as set forth in the appendix to rule 901:10-2-05 of the Administrative Code.

(g) The subsurface geological exploration shall evaluate whether the proposed fabricated structure is to be located within a karst area; and

(h) Ground water quality characteristics. Ground water shall be sampled from a well existing at the facility or, if no well exists at the facility, from a well that is constructed in accordance with rule 3701-28-12 of the Administrative Code. A well installed or otherwise approved for use to satisfy the requirements of this rule, shall also be used to satisfy the annual ground water sampling and analysis required by rule 901:10-2-08 of the Administrative Code.

(i) In the event that the director determines that ground water monitoring shall be required to satisfy the

requirements of this rule or rule 901:10-2-02 of the Administrative Code, then a ground water monitoring program shall be designed, installed, and implemented as approved by the director in a permit to install and permit to operate.

) Manure Storage Ponds or Manure Treatment Lagoons - A subsurface geological exploration shall be completed for manure storage ponds or manure treatment lagoons as described below.

The subsurface geological exploration and report shall be completed under the supervision of an engineering geologist or a professional engineer, and shall be in compliance with, and describe, the following:

(1) The subsurface geological exploration shall include a minimum of four test pits or borings. The test pits or borings must be at regular intervals and within a reasonable distance of the boundaries of the proposed manure storage pond or manure treatment lagoon. Additional test pits or borings may be required by the director or the professional engineer or engineering geologist.

(2) The test pits or borings shall extend a minimum of five feet below the planned bottom of the manure storage pond or manure treatment lagoon. In addition, a representative number of test pits or borings shall extend deep enough to determine if the manure storage pond or manure treatment lagoon meets the siting criteria from the uppermost aquifer described in rule 901:10-2-02 of the Administrative Code. Upon completion, any boring or pit used for sampling shall be properly plugged and sealed. Any pit used for sampling that is within the construction boundaries of the concentrated animal feeding facility, the manure storage pond or the manure treatment lagoon shall be restored by the addition of cohesive soil compacted in lifts no greater than six inches;

) The classification of the soil material shall be provided, as set forth in the appendix to this rule;

(4) The in-situ hydraulic conductivity of the soil material shall be determined, based on lab results, within five feet below the planned bottom of the manure storage pond or manure treatment lagoon;

(5) The subsurface geological exploration shall evaluate the suitability of the soil material to provide adequate sealing of the bottom of the manure storage pond or manure treatment lagoon and construction of the planned embankments as described in rule 901:10-2-06 of the Administrative Code;

(6) The subsurface geological exploration shall evaluate whether the proposed manure storage pond or manure treatment lagoon is to be located within a karst area;

(7) Ground water quality characteristics. Ground water shall be sampled from a well existing at the facility or, if no well exists at the facility, from a well that is constructed in accordance with rule 3701-28-12 of the Administrative Code. A well installed or otherwise approved for use to satisfy the requirements of this rule, shall also be used to satisfy the annual ground water sampling and analysis required by rule 901:10-2-08 of the Administrative Code.

(8) In the event that the director determines that ground water monitoring shall be required to satisfy the requirements of this rule or rule 901:10-2-02 of the Administrative Code, then a ground water monitoring program shall be designed, installed, and implemented as approved by the director in a permit to install and permit to operate.

) Based on the results of the subsurface geological exploration and determinations by the engineering geologist, professional engineer or the director, additional tests may be required to determine the potential need for a liner and the liner specifications;



(10) The department may require additional subsurface geological explorations depending on the soils and geological formations on site to ensure the protection of the ground water, surface water or the structural integrity of the manure storage pond or manure treatment lagoon. The subsurface geological exploration shall refer to the Ohio department of natural resources, division of soil and water resources, ground water pollution potential (DRASTIC) maps to determine the pollution potential for each site, the pathways of contamination, if any, and whether additional design is needed to protect water and ground water.

(C) The results of subsurface geological explorations performed in accordance with paragraphs (A) and (B) of this rule shall be included in a report prepared by an engineering geologist or a professional engineer and submitted with the facility design plans.

(1) The report shall include but not be limited to an analysis or evaluation that demonstrates that the information provided meets the requirements of rules 901:10-2-01 to 901:10-2-06 of the Administrative Code, and as follows for each applicable type of manure storage and treatment facility:

(a) For any planned manure storage or treatment facility, the analysis or evaluation shall provide the following information:

(i) A plan and profile view of the of a facility wells, and any exploration pits and borings shown in relation to the manure storage or treatment facility;

(ii) Available Ohio department of natural resources, division of soil and water resources, water well logs of wells located within a minimum of one thousand feet of the planned manure storage or treatment facility;

(iii) Subsurface materials identified using either the group classification system by the American association of state highway and transportation officials or the unified soil classification system appended this rule;

(iv) Identification of the uppermost aquifer at the site and the criteria used to make this determination.

(b) For any planned liquid manure fabricated structure, manure storage pond, or manure treatment lagoon, the analysis or evaluation shall also provide the following additional information:

(i) Evidence of seepage or ground water conditions and depths in pits or borings;

(ii) Determination of the suitability of in-situ soils to provide an acceptable liner system, or lining recommendations when the in-situ soils are not suitable, which shall include remold permeability tests of planned liner material;

(iii) The results of the soil tests.

(c) For any planned manure storage pond or manure treatment lagoon, the analysis or evaluation shall also provide the following additional information: Recommendation from the laboratory analysis of the compactive effort or soil density, and soil moisture requirements needed during construction to achieve design hydraulic conductivity;

(2) Based on the results of the tests of this rule the professional engineer, engineering geologist, or director may require additional explorations that may include laboratory testing of soils and additional ground water monitoring wells.

(D) Laboratory testing and analysis:

(1) Soil samples taken during the subsurface geological exploration shall be tested in accordance with



approved or certified soil testing procedures..

(2) Tests and results reported shall include, but not be limited to, hydraulic conductivity, dry unit weight, Atterberg limits, and standard compaction with recompaction to achieve design hydraulic conductivity.

(E) Upon request by the owner or operator and subsequent written approval from the department field changes may be made in order to meet site-specific conditions during construction. The owner or operator shall demonstrate that such changes shall be at least as protective of the ground water, surface water and the structural integrity of the manure storage or treatment facility as requirements of this chapter.

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## **901:10-2-04 Manure storage and treatment facilities.**

(A) An application for a permit to install shall include analysis of manure that is sampled and analyzed in accordance with paragraphs (A) to (D) of rule 901:10-2-10 of the Administrative Code.

(B) For the purposes of a permit to install, manure shall be quantified and characterized to allow for proper sizing and design of the proposed manure storage or treatment facility. For an existing facility that submits a permit to install application for a similar type of manure storage or treatment facility with no change in treatment technology to what is currently utilized by the facility, the volume of manure and characterization of manure shall be based on manure production records and manure analysis from an actual sample from the facility. If actual manure production records or manure analysis are not available or are deemed not accurate by the department, or if the permit to install application is for a new facility or treatment technology not in use by the existing facility, then the owner or operator shall use the table appended to this rule or use manure production records and manure characterization records from a similar type facility with a similar type of manure storage or treatment facility or treatment technology. If manure data or analysis is used from a similar type facility to characterize manure, the owner or operator shall submit this alternative manure data along with the identification of the source of the data.

(C) General design and construction criteria for a manure storage or treatment facility.

(1) An appropriate design plan shall be required for a new or expanding manure storage or treatment facility.

(2) A manure storage or treatment facility shall be designed and constructed to handle manure volume, precipitation and surface water runoff in a manner that prevents the discharge of manure to waters of the State, except as provided in applicable standards set forth in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code.

(D) Calculating storage volume for manure storage or treatment facilities.

(1) The total storage volume of a manure storage or treatment facility shall not be less than the volume calculated as the summation of the following, unless the owner or operator or the director determines that additional storage capacity is required to meet permit conditions.

(a) Manure generated during the storage period required by rule 901:10-2-05 or rule 901:10-2-06 of the Administrative Code;

(b) Average precipitation less evaporation on the surface area of the manure storage or treatment facility during the storage period;

(c) Normal runoff that drains from the concentrated animal feeding facility's drainage area into the manure storage or treatment facility during the storage period. Impermeable surfaces shall utilize a minimum factor of fifty per cent of the average precipitation;

(d) A precipitation event based on the surface of the manure storage or treatment facility and applicable standards in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code;

(e) The runoff from a precipitation event that drains from the concentrated animal feeding facility's drainage area into the manure storage or treatment facility based on applicable standards in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code; and

(f) Residual manure after liquids have been removed.

(2) In addition to the requirements in paragraph (D)(1) of this rule, the total storage volume of a manure treatment lagoon shall not be less than the volume calculated using one of the following methods set forth in the appendix to this rule.

(E) Stormwater pollution prevention plans. Each owner or operator of a concentrated animal feeding operation shall prevent pollution of stormwater resulting from an animal feeding facility by submitting plans to satisfy this rule and rule 901:10-3-11 of the Administrative Code to do the following:

(1) Maintain separation of uncontaminated stormwater runoff from contaminated water with designs and installations that include, but are not limited to, settling basins, runoff ponds, liquid impoundments, and areas within berms and diversions;

(a) Grade the area around the livestock buildings and the manure storage or treatment facility;

(b) Divert stormwater runoff and roof water away from the manure storage or treatment facility or other structures in the production area.

(c) Use spill prevention and good housekeeping techniques to ensure that stormwater discharges from the following areas comply with Ohio water quality standards: immediate access roads and rail lines used or traveled by carriers; or raw materials, products, waste materials, or by-products used or created; refuse sites; sites used for storage and maintenance of material handling equipment; sites used for handling material other than manure and shipping and receiving areas.

(d) Install systems that are designed to capture and treat contaminated runoff and prohibit discharge of contaminated discharge. The owner or operator may use the following criteria, provided that in no case shall grassed filter strips satisfy effluent limitations for large facilities in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code.

(i) The "Ohio Natural Resource Conservation Service, Conservation Practice Standards Section IV, Field Office Technical Guide" which includes the following which are available for review at the Ohio department of agriculture website <http://agri.ohio.gov/>:

(a) "Pond, No 378," January 2003;

(b) "Constructed Wetland Conservation Practice Standard, No. 656," January 2010, but provided there shall be no discharge;

(c) "Heavy Use Area Protection Practice, No. 561," December 2012;

(d) "Composting Operation, No. 317," March 2010;

(e) "Critical Area Planting, No. 342," March 2012;

(f) "Dike, No. 356," June 2002;

(g) "Diversion, No. 362," June 2002;

(h) "Grade Stabilization Structure, No. 410," May 1, 1988;

(i) "Pipeline, No. 516," June 2002;

(j) "Roof Runoff Structure, No. 558," June 2002;

(k) "Sediment Basin, No. 350," June 2002;

(ii) The "Ohio Livestock Manure And Wastewater Management Guide, Bulletin 604, The Ohio State University Extension, January 2006," which is available for review at the Ohio department of agriculture's campus in Reynoldsburg, Ohio and

(iii) USDA natural resource conservation service - NHCP which is available for review at the Ohio department of agriculture's campus in Reynoldsburg, Ohio .

(2) Construct coverings over any structures in the production area where manure may be exposed to direct precipitation; or

(3) Install vegetative cover and protect stream channels and areas adjacent to such channels from a concentrated animal feeding operation.

(4) The owner or operator may submit plans that implement alternative practices to the director for approval provided that any alternative practices must be demonstrated to be equivalent to the practices listed in paragraph (F)(1) of this rule unless the owner or operator or the director determine that additional total storage capacity is required to meet permit conditions. All of the practices listed are subject to the design standards for precipitation events in paragraphs (C) and (D) of this rule.

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## **901:10-2-05 Fabricated structures.**

(A) Fabricated structures shall be designed and maintained to prevent discharge to ground waters or surface waters.

(1) Fabricated structures for liquid manure and fabricated structures that store solid manure with a wall height of eight feet or greater (measured from the top of the footing), shall be designed by a professional engineer, which shall include a signed and sealed set of design plans.

(2) A fabricated structure shall be designed and constructed to meet the requirements in paragraph (A) of rule 901:10-2-03 and any applicable section of the appendix to this rule.

(3) Storage period.

(a) The minimum storage period for a fabricated structure storing liquid manure shall be one hundred eighty days.

(b) The minimum storage period for a fabricated structure storing solid manure shall be one hundred twenty days.

(c) Additional storage may be required by the department in order to ensure protection of groundwater, surface water, or the structural integrity of the fabricated structure.

(4) Freeboard.

(a) A fabricated structure shall be designed and maintained to have an operating level that does not exceed the level that provides adequate storage to contain a precipitation event plus an additional six inches of freeboard.

(b) Fabricated structures that contain solid manure and are not subject to precipitation or runoff do not require an additional six inches of freeboard.

(5) Fabricated structures for liquid manure shall have a liquid level board, staff gauge, depth marker, or other appropriate device approved by the director, installed within the interior to monitor manure levels. The approved device shall indicate levels every one foot in vertical elevation and shall indicate levels as described in paragraph (A)(4)(b) of rule 901:10-2-08 of the Administrative Code.

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## **901:10-2-06 Manure storage pond and manure treatment lagoon.**

(A) A manure storage pond or manure treatment lagoon subject to this rule shall be designed and the plans stamped by a professional engineer. The following design and construction criteria shall be followed:

(1) An exploratory trench shall be excavated a minimum of four feet below natural grade to investigate for subsurface drainage lines in the immediate area of the manure storage pond or manure treatment lagoon. Any lines found shall be removed or relocated to provide for a minimum separation distance of not less than fifty feet between the top inner perimeter of the manure storage pond or manure treatment lagoon and the subsurface drainage line unless the subsurface drainage line is necessary to comply with paragraph (A)(9)(a) of this rule.

(2) If not already installed at the facility, a liquid level board, staff gauge, depth marker, or other appropriate device, approved by the director, shall be installed within the interior of the liquid manure storage pond or manure treatment lagoon to monitor manure levels. This device shall indicate levels every one foot in vertical elevation and shall indicate levels as described in paragraph (D)(1) of rule 901:10-2-08 of the Administrative Code.

(3) Agitation and pump-out points shall be shown on plans for a manure storage pond and a manure treatment lagoon with scour protection required.

(4) An emergency spillway may be included at the one foot freeboard level and shall be directed to a specifically designed filter strip or infiltration areas if the facility is constructed with an earthen embankment.

### **) Embankments.**

(a) The minimum embankment top width shall be eight feet for embankments less than fifteen feet, ten feet for embankments ranging in height from fifteen to less than twenty feet, and twelve feet for embankments ranging from twenty to twenty-five feet high, as measured from the low point on the downstream toe to the top of the dam.

(b) If the embankment is to be traversed by farm equipment, the minimum top width shall be twelve feet. The height of the embankment shall be no greater than twenty-five feet, as measured from the low point on the downstream toe to the top of the dam.

(c) Embankments shall have side slopes not steeper than two horizontal to one vertical.

(d) The combined side slopes of settled embankments shall not be less than five horizontal to one vertical.

(e) Vegetative cover shall be established on any exposed embankment and mowed or otherwise maintained to control erosion or other embankment deterioration. In the alternative, the director may approve other means or materials to control erosion.

### **(6) Inlets and outlets.**

(a) Inlets shall be designed to resist corrosion, plugging and freezing.

(b) The embankment may contain no outlet piping that extends through the embankment unless the piping discharges to another facility or is a component of a re-circulating flush system.

(c) All pipes for manure transfer or manure flush systems shall have watertight joints in accordance with



the following ASTM standards:

- (i) ASTM D3212-standard specification for joints for drain and sewer plastic pipes using flexible elastomeric seals; or
- (ii) ASTM C443-standard specification for joints for concrete pipe and manholes, using rubber gaskets; or
- (iii) Other standards recommended by the professional engineer and approved by the department.

(7) Storage period.

The minimum storage period of manure for a manure storage pond and manure treatment lagoon shall be one hundred eighty days of manure production unless alternative use and design is otherwise approved by the department. This section is not intended to address the surface water runoff where the runoff does not enter into the pond or lagoon.

(8) Freeboard.

Freeboard shall be provided for a manure storage pond and manure treatment lagoon in addition to the total storage volume such that the elevation of the emergency spillway or top of the settled embankment, if there is no designed emergency spillway, shall be less than the level that provides adequate storage to contain a precipitation event as required in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code, plus an additional one foot of freeboard.

(9) Liners.

The owner or operator shall include the use of a liner as part of the manure storage pond or manure treatment lagoon that achieves a hydraulic conductivity of at least one times ten to the minus seven centimeters per second ( $1 \times 10^{-7}$  cm/sec) to insure the integrity of the manure storage pond or manure treatment lagoon. A minimum of three feet of in situ soils with a hydraulic conductivity of one times ten to the minus seven centimeters per second will satisfy this requirement. The following design and construction criteria shall be followed:

(a) Ground water seepage shall be prevented from entering the bottom of the manure storage pond or manure treatment lagoon after construction by installing and/or maintaining a liner with a minimum liner thickness of three feet of in situ soil between the top of the seasonal high ground water surface and the bottom of the manure storage pond or manure treatment lagoon. In order to meet this requirement the ground water surface may be lowered by use of subsurface drainage lines that are properly designed by the engineering geologist or professional engineer and approved by the director.

(b) Soil liners shall be designed and constructed using procedures in section 651.1080 of the "United States Department of Agriculture, Natural Resources Conservation Service Agricultural Waste Management Field Handbook, Chapter Ten, Geotechnical Design and Construction, August 2009," and "United States Department of Agriculture, Ohio Natural Resources Conservation Service, Section IV, Field Office Technical Guide Conservation Practice Standard 521-D, Pond Sealing and Lining, Compacted Earth Treatment. January 2010." Both procedures are available for review at the Ohio department of agriculture website <http://agri.ohio.gov/>. A soil liner thickness shall be a minimum of three feet.

Design and construction alternatives for ground water protection.

- (i) As a result of the subsurface geological exploration conducted pursuant to rule 901:10-2-03 of the Administrative Code and the findings of the report submitted in accordance with that rule, an engineering

geologist, professional engineer or the director may determine that installation of an additional liner is required to insure the integrity of the manure storage pond or manure treatment lagoon and to protect groundwater.

) If an additional or alternative liner protection is required as set forth in paragraph (A)(9)(c)(i) of this rule, then one or more of the following may be required by the director:

(a) Concrete liners that have a minimum thickness of five inches and shall include non-metallic water stops for all joints;

(b) Flexible plastic membranes that are installed under the supervision of the manufacturer or the manufacturer's representative and include written certification that the liner was installed in accordance with the manufacturers recommendations.

(c) Geosynthetic clay liners that are installed under the supervision of the manufacturer or the manufacturer's representative and include written certification that the liner was installed in accordance with the manufacturer's recommendations; or

(d) Other liner designs or materials will be considered at the discretion of the director if the minimum criteria of this paragraph of this rule are met.

(10) Design and construction criteria for a manure storage pond or manure treatment lagoon located in a karst area.

(a) Manure storage ponds or manure treatment lagoons may be constructed within a karst area provided that the facility is designed to prevent seepage of manure to groundwater.

(b) Any portion of a manure storage pond or manure treatment lagoon located below the pre-construction soil surface level and constructed in a karst area shall be designed and constructed utilizing a rigid material such as concrete or steel or a properly designed clay or synthetic liner, when appropriate, upon findings in the geologic exploration.

(11) Manure treatment lagoons shall be designed in accordance with the methods set forth in the appendix to this rule.

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## **901:10-2-07 Contents of a permit to operate and NPDES applications.**

↵) The application for a permit to operate and for a NPDES permit shall contain the following information:

(1) A manure management plan that is developed and implemented to comply with the best management practices set forth in rules 901:10-2-08 to 901:10-2-11 , 901:10-2-13 to 901:10-2-16 and 901:10-2-18 of the Administrative Code, and

(2) Plans or schedules for inspections required in rule 901:10-2-08 of the Administrative Code.

(B) Additional requirements for an application for a permit to operate include submittal of:

(1) An insect and rodent control plan that conforms to best management practices and is in accordance with rule 901:10-2-19 of the Administrative Code.

(2) A plan for odor minimization in accordance with rule 901:10-2-12 of the Administrative Code.

(3) An emergency response plan in accordance with rule 901:10-2-17 of the Administrative Code.

(C) Additional requirements for an application for a NPDES permit for a large concentrated animal feeding operation shall contain the information required in Chapter 901:10-3 of the Administrative Code.

(D) If a biosecurity plan is submitted, it shall be included with the permit to operate application.

(E) The owner or operator shall maintain a copy of the current permit to operate and NPDES permit issued the department at the concentrated animal feeding facility's site office.

(F) Additional requirements for an application for a NPDES permit for a medium or small concentrated animal feeding operation may also include best management practices specified by the director.

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## **901:10-2-08 Contents of the manure management plan: inspections, maintenance and monitoring.**

manure management plan is a plan developed to minimize water pollution and protect waters of the state. The manure management plan shall include best management practices for reuse and recycling nutrients, prevent direct contact of confined animals with waters of the state, and ensure proper mortality management.

(A) The manure management plan shall specify the frequency of inspections to be conducted by the owner or operator at the manure storage or treatment facility; and

(B) The owner or operator shall maintain a list of equipment used, including land application equipment and a written chronological record of the dates of inspections, maintenance, calibration monitoring and repairs that shall be maintained in the operating record required by rule 901:10-2-16 of the Administrative Code and be made readily available during an inspection of the facility. These records shall also be made available at the request of the director. All repairs shall be completed promptly. The department shall inspect any major structural repairs; and

(C) The owner or operator must periodically inspect equipment used for land application of manure, litter, or process wastewater for leaks.

(D) At a minimum, the following must be inspected, performed, monitored or maintained at the manure storage or treatment facility and documented in the operating record:

(1) The operating level of manure treatment lagoons and manure storage ponds. The operating level must not exceed the level that provides adequate storage to contain a precipitation event as required in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code, plus an additional one foot of freeboard.

(2) The operating level of fabricated structures must not exceed the level that provides adequate storage to contain a precipitation event as required in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code, plus an additional six inches of freeboard, unless the fabricated structure is designed and maintained for solid manure and is not subject to precipitation.

(3) For paragraphs (D)(1) and (D)(2) of this rule, the maximum operating level shall not exceed that specified in the manure management plan.

(4) Inspect in order to confirm that domestic and industrial wastewater from showers, toilets, sinks, medical wastes, chemicals and other contaminants etc., handled on-site are not discharged into the manure storage or treatment facility unless designed and permitted to do so.

(5) Manure storage or treatment facilities under the control of the owner or operator shall be inspected for evidence of erosion, leakage, animal damage, cracking, excessive vegetation, or discharge.

(6) Inspect liquid manure volume weekly and note in the operating record the level of liquid manure in manure storage or treatment facilities by the depth marker required in paragraph (D)(15) of this rule.

(7) Document in the operating record procedures to ensure proper operation and maintenance of liquid manure in storage or treatment facilities, when manure and manure residuals are removed from the manure storage pond or manure treatment lagoon. The owner or operator shall take care to prevent damage to lagoon or pond dikes and liners when manure residuals are removed.

(8) Inspect to determine that all stormwater conveyances are maintained to keep runoff from the surrounding property and buildings and stormwater shall be diverted away from the manure treatment lagoons and manure storage ponds to prevent any unnecessary addition to the liquid volume in these structures, unless they are designed for such runoff containment. Identify appropriate buffer strips or equivalent practices, to control runoff of manure to waters of the state, and divert clean water, as appropriate, out of the production area.

(9) Conduct weekly inspections of stormwater or diversion devices, runoff diversion structures, devices channeling contaminated stormwater to the manure storage pond or manure treatment lagoon and note proper operation and maintenance in the operating record.

(10) Inspect the protective vegetative cover and any other approved means or materials for erosion control to determine that cover is maintained on all disturbed areas (lagoon or pond embankments, berms, pipe runs, erosion control areas, etc.).

(11) Ensure that any emerging vegetation such as trees, shrubs and other woody species shall not be allowed to grow on the pond or lagoon dikes or side slopes. Pond or lagoon areas are to be kept mowed and accessible unless these areas are grassed waterways or buffers that manage precipitation and runoff.

(12) Surface water and groundwater protection.

(a) Conduct annual sampling and analysis of ground water for nitrates and total coliform from a well as described by paragraph (A)(2)(e) or (B)(2)(d) of rule 901:10-2-03 of the Administrative Code. In the event that a well does not already exist at the facility and the operation is not an operation as described in paragraph (A)(1) of rule 901:10-2-03 of the Administrative Code or is not served by a public water system as defined by paragraph XXX of rule 901:10-1-01 of the Administrative Code, then the owner or operator shall install a well at the facility that is properly located, protected and operated. The well shall be easily accessible for sampling and have an adequate water quantity for sampling.

(b) The director may require additional sampling, including but not limited to, ground water samples from any additional ground water monitoring wells installed as required in paragraph (C)(2) of rule 901:10-2-03 of the Administrative Code.

(c) The director may require samples of manure discharges from the production area that may occur.

(d) The director may require monitoring or sampling, or both, of subsurface perimeter drains around manure storage or treatment facilities; and

(e) Results of sampling and analysis shall be documented in the operating record and, for manure discharges from the production area, results shall also be recorded in the annual report submitted to the director in accordance with rule 901:10-2-20 of the Administrative Code.

(13) Ensure proper management of dead livestock as required by rule 901:10-2-15 of the Administrative Code to ensure that there shall be no discharge of mortality to waters of the state and no disposal in a manure storage or treatment facility that is not specifically designed to treat animal mortalities.

(14) Inspect drinking water lines daily, including drinking water or cooling water lines that are located above ground, readily visible or accessible for daily inspections, and record in the operating record.

(15) All liquid manure in manure storage or treatment facilities must have a depth marker or other appropriate device as approved by the director in accordance with rule 901:10-2-05 or 901:10-2-06 of the Administrative Code which clearly indicates the minimum capacity necessary to contain the runoff and

direct precipitation of the twenty-five year, twenty four hour rainfall event. In the case of new sources subject to the requirement in paragraph (D)(1) of rule 901:10-3-06 of the Administrative Code, all open surface manure storage structures associated with such sources must include a depth marker or other appropriate device as approved by the director in accordance with rule 901:10-2-05 or 901:10-2-06 of the Administrative Code which clearly indicates the minimum capacity necessary to contain the maximum runoff and direct precipitation associated with the design storm used in sizing the impoundment for no discharge.

(E) The director may determine that the monitoring required in paragraphs (D)(6), (D)(14), and (D)(15) of this rule may use alternative monitoring devices. Alternative monitoring devices include, but are not limited to, sensors, remote sensors, electronic alarms, wireless receivers, other real time warning systems, or other flow control structure, or other steady state overflow structures.

(1) The owner or operator shall identify the alternative monitoring devices in the manure management plan submitted to the director. In approving the manure management plan, the director may approve the alternative monitoring devices.

(2) The director may notify the owner or operator in writing to cease use of alternative monitoring devices if at any time that the director or the director's representative find that the operating record and documents maintained as required by this rule contain false or misleading information.

(F) Any deficiencies found as a result of the inspections conducted under this rule are to be corrected as soon as possible and listed in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.

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## **901:10-2-09 Contents of manure management plan: nutrient budget.**

(A) The manure management plan shall include the nutrient budget for the land application areas and quantity of nutrients to be managed by distribution and utilization for a twelve month period as derived from rules 901:10-2-10 and 901:10-2-11 of the Administrative Code.

(B) The total nutrient budget to be used for the land application areas under the control of the facility for the duration of the permit shall be based on the following:

- (1) Targeted crop yields based on the actual crop yields;
- (2) Soil productivity information;
- (3) Historical yield data.
- (4) Potential yield; or
- (5) Combination of yield data.

(C) To the extent the manure is not managed through distribution and utilization, the manure management plan shall include the total summary of land application areas to be used for the duration of the permit and the land that is available for manure that is generated by the facility. The total summary shall be further characterized as follows:

- (1) The total nutrient budget requirements on land application areas under the control of the owner or operator; and
- (2) The quantity of commercial fertilizer nutrients or residual nutrients from all sources to be applied on land application areas under the control of the owner or operator for a twelve month period.

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## **901:10-2-10 Contents of manure management plan: manure characterization.**

ie manure management plan shall contain information on manure to allow the owner or operator to plan for nutrient utilization at recommended agronomic rates and to minimize nutrient runoff that may impact waters of the state.

(A) Manure characterization shall describe the manure by the per cent of liquid content, the per cent of solids content and/or manure density and shall follow the sampling procedures for manure sampling and analysis in "Recommended Methods of Manure Analysis" (a 3769), university of Wisconsin extension, 2003 a free copy of which can be downloaded at <http://learningstore.uwex.edu/> [File Link Not Available]. For an existing facility that will continue to have similar manure storage or treatment facilities with no change in treatment technology, the manure shall be characterized utilizing an actual sample from the facility. If the owner or operator is proposing a new facility, new manure storage or treatment facility, or a change in treatment technology, then the manure shall be characterized by using the table appended to this rule or by utilizing a representative analysis from a similar type facility with a similar type of manure storage or treatment facility to characterize manure, the owner or operator shall submit this alternative manure data along with the identification of the source of the data. Manure characterization shall include the following:

(1) Total manure production quantified:

- (a) Pounds per day; or
- (b) Tons per year; or
- (c) Cubic yards per day; or
- (d) Gallons per day.

(2) Nutrient content quantified:

- (a) Pounds per day; and/or
- (b) Pounds per ton; or
- (c) Pounds per one thousand gallons.

(B) The manure management plan shall contain an estimate, supported by calculations of the quantity and total nutrient content of manure produced, stored and treated during a twelve month period along with a schedule for manure removal or manure transfer for purposes of land application. Manure may be removed based on results of inspections conducted pursuant to paragraph (A)(4)(f) of rule 901:10-2-08 of the Administrative Code or in accordance with distribution and utilization methods.

(C) At a minimum, manure from each manure storage or treatment facility shall be analyzed annually for the following: total nitrogen; ammonium nitrogen; organic nitrogen; phosphorus; potassium; and per cent total solids.

) In addition to the minimum requirements for annual manure analysis in paragraphs (A) to (C) of this rule, any manure with wastes that are process waste water, shall be characterized annually by the owner or operator by utilizing an actual sample from the facility, provided, however that for a permit to install application as required by paragraph (C) of rule 901:10-2-01 of the Administrative Code or for an

operational change to be made to the manure management plan in accordance with rule 901:10-1-09 of the Administrative Code, the owner or operator may utilize a sample from a similar facility or by relying upon on existing published or documented data.

;) Results of analyses and estimates conducted in paragraphs (A) to (D) of this rule shall be recorded in the operating record and shall be submitted as part of the annual report to the director required by rule 901:10-2-20 of the Administrative Code. Results of the manure analysis conducted in paragraph (C) of this rule shall be recorded in the operating record.

(F) After conducting manure analysis required in paragraph (C) of this rule, the owner or operator may request approval from the director for a major operational change to reduce the number of samples needed to be representative of each manure storage and treatment facility and to utilize composite sampling and analysis. The director may approve a request provided all of the following apply:

(1) The owner or operator submits a written request to the director along with copies of manure analyses from manure storage or treatment facilities from the same permitted facility;

(2) Manure analyses for three consecutive years demonstrate that analytical results are the same or similar for a twelve month period for each manure storage or treatment facility at the permitted facility; and

(3) The owner or operator acknowledges that the director may notify the owner or operator in writing that the owner or operator shall comply with paragraph (C) if at any time the director or the director's representative find that composite sampling is no longer representative for reasons that include, but are not limited to:

) Changes in feed and feed rations;

(b) Age, size, or type of animals;

(c) Changes in clean out times;

(d) Changes in building design, such as changes in ventilation;

(e) Changes due to diseases and actions taken to eliminate disease.

(G) The manure management plan shall contain information on manure to allow the owner or operator or the person accepting manure under rule 901:10-2-11 of the Administrative Code to plan for nutrient utilization.

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## **901:10-2-11 Contents of manure management plan: distribution and utilization methods.**

¶ If the owner or operator elects to use distribution and utilization methods, for any quantity of manure that is not managed under the control of the owner or operator, the following is required:

(1) If the owner or operator decides to use livestock manure brokers or auctions or farm sales for distribution and utilization, the owner or operator shall submit distribution and utilization methods for the beneficial use of the manure as part of the manure management plan as required by rule 901:10-2-09 of the Administrative Code. The permitted facility operating record shall include copies of the acknowledgments between the owner and operator of the facility and livestock manure brokers made pursuant to auctions or farm sales. The facility operating acknowledgment shall include the following statement:

"I have been provided with a copy of the analytical results that list the nutrient content of the manure and total quantities of manure and copies of the applicable requirements of rule 901:10-2-14 of the Administrative Code. The manure will be distributed and utilized according to the best management practices and according to any state laws regulating these uses."

(2) If the owner or operator decides to use distribution and utilization methods then the owner or operator shall provide a copy of appendices A and F to rule 901:10-2-14 of the Administrative Code, and a copy of the most recent analytical results that list the nutrient content of the manure based on an analysis consistent with the rules to the manure recipient. The permitted facility operating record shall include the name and address of the manure recipient, the date of distribution, and the approximate amount of manure in tons or gallons distributed on that date and an acknowledgment by the manure recipient as follows:

"I have been provided with a copy of the analytical results that list the nutrient content of the manure and total quantities of manure and copies of the applicable requirements of rule 901:10-2-14 of the Administrative code. The manure will be distributed and utilized according to the best management practices and according to any state laws regulating these uses."

(3) In addition to the information in paragraph (A)(2) of this rule, if the owner or operator decides to use distribution and utilization methods for liquid manure, then the owner or operator shall also provide a copy of appendix B, the available water capacity chart that illustrates how to comply with the requirements of rule 901:10-2-14 of the Administrative Code.

(B) All of the information in paragraphs (A)(1) to (A)(3) of this rule shall be recorded in the operating record as described in rule 901:10-2-16 of the Administrative Code.

(C) An estimated amount of total manure transferred to other persons by the owner or operator in the previous twelve months (tons/gallons) shall be reported in the annual report required by rule 901:10-2-20 of the Administrative Code, as well as the operating record.

(D) If the owner or operator is notified by the director, or otherwise becomes aware that the recipient is not in compliance with rule 901:10-1-06 of the Administrative Code or best management practices set forth in Chapter 1501:15-5 of the Administrative Code or with other applicable laws and rules, the owner or operator shall cease providing manure to the recipient until written authorization to continue is provided by the department.

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## **901:10-2-12 Contents of manure management plan: methods to minimize odors.**

manure management plan shall include best management practices to minimize odors. These best management practices shall be identified in the manure management plan and shall be compatible with the overall content of the manure management plan. These best management practices may include, but is not limited to, the following:

- (A) Remove, transfer and land apply manure at optimum temperatures;
- (B) Remove, transfer and land apply manure when wind direction is less likely to affect neighboring residences;
- (C) Promptly inject or incorporate manure to minimize odors; or
- (D) If manure is applied by spray irrigation, use appropriate pressure and nozzles.
- (E) Additional controls on odor are included in the appendix to rule 901:10-2-06 of the Administrative Code. The information appended to rule 901:10-2-06 of the Administrative Code includes manure storage or treatment facilities that control and promote additional treatment reduction of odor.

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## **901:10-2-13 Contents of manure management plan: soil characterization.**

The manure management plan shall contain information on the soil of the land application areas. Soil samples shall be analyzed to plan for nutrient utilization at recommended agronomic rates and to minimize nutrient runoff to waters of the state. Soil shall be sampled and analyzed by utilizing the following procedures:

(A) At a minimum, soil samples shall be taken to a uniform depth of eight inches and the fertility analysis shall include: pH, phosphorus, potassium, calcium, magnesium and cation exchange capacity.

(B) Soil fertility analysis shall be conducted in accordance with Publication 221,

"Recommended Chemical Soil Test Procedures for the North Central Region; Published by the North Central Regional Committee on Soil Testing and Plant Analysis (NCR-13), North Dakota Agricultural Experiment Station." A copy of which may be downloaded at: <http://www.bephosphorusmart.msu.edu/>.

(C) Soil samples shall be representative of a land application site with one composite soil sample representing no more than twenty-five acres or one composite soil sample for each land application site, whichever is less.

(D) The manure management plan shall specify the soil sampling frequency in accordance with the following requirements:

(1) A site that receives manure shall be soil tested, at a minimum, once every three years and

(2) If any land application site is used by the owner or operator the land application site shall be sampled at least six months following application.

(E) Results of the soil sampling events in paragraphs (A) to (D) of this rule shall be recorded in the operating record in accordance with rule 901:10-2-16 of the Administrative Code and shall include the location of the soil sample collection site, the depth of the sample collected and the analysis.

(F) In developing appropriate manure application rates for land application methods in accordance with rule 901:10-2-14 of the Administrative Code, the owner or operator shall use the Bray P1 soil test level or equivalent appropriate phosphorus soil test, (Mehlich III, Olsen, phosphorus retention test), or other test methods approved by the director. The owner or operator shall choose a phosphorus soil test method and identify the selected method in the manure management plan.

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Prior Effective Dates: 1/23/2009, 9/15/2005, 7/2/2002

## **901:10-2-14 Contents of manure management plan: land application methods.**

This rule establishes best management practices that govern land application of manure on land application areas. The land application of manure at each land application area shall be conducted to utilize nutrients at agronomic rates, and to minimize nutrient runoff to waters of the state and shall be recorded in the operating record in accordance with rule 901:10-2-16 of the Administrative Code. The discharge of manure to waters of the state from a facility as a result of application of that manure by the facility to land application areas is a discharge from that facility subject to NPDES requirements except where it is an agricultural stormwater discharge. Where manure has been applied in accordance with this rule and an approved manure management plan, a precipitation-related discharge of manure from land application areas is agricultural stormwater discharge.

(A) The manure management plan shall contain procedures on how manure shall be transported to land application areas in a manner that minimizes loss or spillage, and how spills will be promptly cleaned up or removed.

(B) Manure application rate - testing criteria:

(1) The manure application rate shall be based on the land application area's soil tests conducted in accordance with rule 901:10-2-13 of the Administrative Code and that are no older than three years.

(2) The manure application rate shall be based on the most current manure test results conducted in accordance with rule 901:10-2-10 of the Administrative Code. The manure test results expressed as a nutrient percentage shall be converted into either pounds per ton of dry or wet manure or pounds per one thousand gallons of liquid manure.

(C) General criteria for manure application. The manure application rate shall be based on the most limiting factor of rates derived from paragraphs (B) to (G) of this rule, including factors derived from all appendices to this rule, whichever factor is determined to be the most restrictive factor for purposes of protecting waters of the state.

(1) For liquid manure:

(a) The crop nitrogen requirements or removal of nitrogen described in paragraph (D) of this rule, expressed in thousands of gallons of manure per acre;

(b) The phosphate application limits as described in paragraph (E) of this rule, expressed in thousands of gallons of manure per acre;

(c) The restrictions on the rate of liquid manure applied, taken from notes (1) and (5) in appendix A table 2 to this rule, with volume expressed as a measure of gallons per acre or inches per acre;

(d) The application rate shall not exceed the available water capacity of the soil as described in appendix B to this rule;

(e) The application rate shall be adjusted to preclude surface ponding and/or runoff from a land application area.

(2) For solid manure:

- (a) The crop nitrogen requirements or removal of nitrogen as described in paragraph (D) of this rule expressed in pounds per ton of dry manure per acre;
  - (b) The phosphate application limits as described in paragraph (E) of this rule expressed in pounds per ton of dry manure per acre;
  - (c) The restrictions on the rate of solid manure applied, taken from notes (1) and (5) in appendix A table 2 to this rule with volume expressed as a measure of tons/acre.
- (3) All land applications of manure shall comply with all restrictions contained in appendix A to this rule unless a compliance alternative is submitted and approved by the director. As a compliance alternative, the concentrated animal feeding operation or certified livestock manager may demonstrate that a setback or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the one hundred foot setback or a thirty five foot vegetated buffer. As a compliance alternative, the concentrated animal feeding facility or certified livestock manager may demonstrate that a soil listed in appendix A, table 1 to this rule is not prone to flooding in a particular county in which land applications of manure are planned, through reference to the current United States department of agriculture, natural resources conservation service, web soil survey for the county.

Comment: The natural resources conservation service and the Ohio state university have conducted extensive research on manure injection and manure incorporation on all representative Ohio soil types. Refer to "United States Department of Agriculture - Natural Resource Conservation Service.

Field Office Technical Guide - Conservation Practice Standard 633. Columbus, Ohio, June 2003." A copy is available for review at the Ohio department of agriculture website <http://agri.ohio.gov/>.

- (4) For all land application of liquid manures, the owner or operator shall maintain or have access to methods or devices to capture or stop subsurface drain flow if liquid manure reaches the subsurface drain outlets. Use of drain outlet plugs or other devices shall be recorded in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.
- (5) Calculate the total amount of nitrogen and phosphate to be applied to each field, including sources other than manure such as commercial fertilizer or other organic by-products.
- (6) Land application of manure by means of surface application shall not occur if the forecast contains a greater than fifty per cent chance of precipitation as determined in "Managing Manure Nutrients at Concentrated Animal Feeding Operations, Appendix M, United States Environmental Protection Agency, EPA-821-B-04-006, August 2004," exceeding an amount of one-quarter inch for hydrologic soil group D soils and one-half inch for hydrologic soil group A, B, and C soils, for a period extending twenty-four hours after the start of land application. Record weather conditions in the operating record for conditions at the time of application and for twenty-four hours prior to and following application. A copy is available for review at the Ohio department of agriculture website <http://agri.ohio.gov/>.

(D) The manure application rate for nitrogen shall be based on the following criteria:

- (1) The application rate for nitrogen shall be based on utilization of crops at the recommended agronomic rates and based on minimum runoff and leaching that may impact waters of the state.
- (2) In determining the agronomic rate for nitrogen, the owner or operator shall do the following:
  - (a) Determine the nitrogen requirements or removal rates for the realistic yield goal of planned crops using

nutrient amounts from appendix C, tables 1, 2 or 3 to this rule.

(b) Subtract the nitrogen credit for crop residue, legumes, and other sources of nitrogen to be given to the next crop in accordance with values for previous crops given in appendix C, table 4 to this rule;

(c) When applying nitrogen to a grass or legume cover crop that is growing or being established immediately after manure application, manure can be applied at the recommended nitrogen rate for the next non-legume crop or the nitrogen removal rate for the next legume crop.

(3) In determining how to minimize nitrogen leaching that may impact waters of the state, the owner or operator shall do the following:

(a) Assess each land application area with the Ohio nitrogen leaching risk assessment procedure contained in appendix C, table 5 to this rule;

(b) If the nitrogen leaching risk assessment procedure completed in accordance with paragraph (D)(3)(a) of this rule demonstrates that the land application site has a high nitrogen leaching potential and no growing crop, then application of manure shall be limited to fifty pounds of nitrogen per acre calculated at the time of application prior to October first.

(4) In calculating the actual rate of application of nitrogen from manure, the figures in appendix C, table 6 to this rule shall be used along with the manure test results conducted according to rule 901:10-2-10 of the Administrative Code.

(5) The requirements of paragraph (D) of this rule may be changed only if the owner or operator can demonstrate to the director nutrient insufficiency in accordance with the prescribed nitrate soil test procedures of tables 7 and 8 in appendix C to this rule.

(E) The manure application rate for phosphate shall be determined using the soil test analysis obtained pursuant to rule 901:10-2-13 of the Administrative Code and the following criteria:

(1) Prior to the land application of manure, land application areas shall be assessed with either the phosphorus index risk assessment procedure in appendix E, table 1 to this rule or the phosphorus soil test risk assessment procedure in appendix E, table 2 to this rule. The manure application rate for phosphate shall be limited in compliance with the applicable provision in the:

(a) Generalized interpretation of phosphorus index and management column in appendix E, table 1, to this rule, or

(b) The application criteria in appendix E, table 2, to this rule.

(2) The phosphate requirements for the realistic yield goals of planned crops, crop rotations, and/or plant biomass shall be determined using amounts from appendix C, table 1 to this rule;

(3) Phosphate applications between two-hundred fifty pounds per acre and five hundred pounds per acre are not recommended but may be made if the values for liquid manure exceed sixty pounds phosphate per one thousand gallons and if the values for solid manure exceed eighty pounds phosphate per ton and application is subject to these additional requirements:

(a) No manure application shall occur on land with soil tests that exceed more than one hundred parts per million Bray P1;

(b) No manure application shall occur on frozen or snow-covered ground;

(c) The manure shall be incorporated within twenty-four hours;

(d) No additional phosphate application shall be made for a minimum of three years on fields with soil tests that measure less than forty parts per million Bray P1 or equivalent; and

(e) No additional phosphate application shall be made for a minimum of five years on fields with soil tests between forty and one-hundred parts per million Bray P1 or equivalent.

(4) Notwithstanding the procedures in paragraph (E) of this rule but subject to the restrictions in appendix B to this rule, for a single phosphate application in a year, the application rate shall not exceed five hundred pounds per acre of phosphate.

(F) Land application for crops or other uses not listed in appendix C to this rule will be considered on a case-by-case basis. The owner or operator shall submit existing published or documented data that is acceptable to the director.

(G) General criteria for frozen and snow-covered ground. In addition to complying with all of the criteria in paragraphs (A) to (F) of this rule, the following actions are required for surface application of manure to land with frozen or snow-covered ground.

If manure can be injected or incorporated then the land application site is not frozen or snow covered and therefore subject to paragraphs (A) to (F) of this rule.

The owner or operator shall comply with rule 901:10-2-08 of the Administrative Code and this rule and use best efforts to avoid surface application of manure to frozen or snow covered ground by ensuring enough manure storage capacity by November of each year for a minimum of one hundred twenty to one hundred eighty days.

Manure injection or manure incorporation performed within twenty-four hours at the land application site is the preferred alternative to surface application of manure. Solid manure with less than fifty per cent moisture shall be stockpiled at the land application site in lieu of manure application on frozen or snow covered ground.

Surface application of manure on frozen or snow-covered ground is prohibited unless performed in accordance with all of the following requirements in paragraph (G)(1) of this rule.

(1) Application.

(a) Prior approval for each surface application of manure shall be obtained from the director or his designated representative.

(b) Except as required by paragraph (G)(1)(g) of this rule, the application rate is limited to ten wet tons per acre for solid manure with more than fifty per cent moisture.

(c) Except as required by paragraph (G)(1)(g) of this rule, the application rate is limited to five thousand gallons per acre for liquid manure.

(d) Applications are to be made on land with at least ninety per cent surface residue cover at the time of application such as good quality hay or pasture field, all corn grain residue remaining after harvest, and all all grain residue cover remaining after harvest. Vegetation or residue shall not be completely covered by ice or snow at the time of application.

(e) Manure ponding shall be prevented.



(f) Manure shall not be applied on more than twenty contiguous acres. Contiguous areas for application are to be separated by a break of at least two hundred feet. Areas that are furthest from streams, ditches, waterways, and/or surface waters are to be utilized in preference to areas with the potential for surface water runoff.

(g) Setbacks from surface waters and conduits to surface waters, (including grassed waterways and surface drains) shall be a minimum of two hundred feet. Setbacks shall have at least ninety per cent surface residue cover and vegetation or residue shall not be completely covered by ice or snow at the time of application.

(h) For application fields with slopes greater than six percent, manure shall be applied in alternating strips sixty to two hundred feet wide generally on the contour, or in the case that the field is managed in contour strips with alternative strips in grass or legume, manure shall only be applied on alternative strips. Manure application rates shall be determined for each separate application strip area and not the area of the entire application field.

(i) Any manure application with phosphorus exceeding two hundred and fifty pounds per acre is prohibited.

(2) Monitoring.

(a) Concentrated field surface drainage and tile outlets shall be visually monitored at the conclusion of manure application and periodically afterwards when weather, temperature increase, snowmelt and rainfall are likely to produce manure runoff. Periodic visual monitoring shall continue until manure is assimilated into the application field and is no longer likely to discharge into waters of the state.

(b) Upon discovering a discharge to waters of the state, the owner or operator shall notify the department within two hours of detection of the runoff event.

(c) In addition to the visual monitoring and reporting in this paragraph, the owner or operator shall collect representative grab samples from the discharges of land applied manure into waters of the state at the point that the discharge enters waters of the state (i.e. concentrated field surface runoff or field tile outlet discharge prior to entrance to surface waters) and have the sample analyzed for ammonia nitrogen levels.

(d) The owner or operator shall:

(i) Collect the sample within thirty minutes of the first knowledge of the discharge; or

(ii) If the sampling in that period is inappropriate due to dangerous weather conditions, the owner or operator shall collect the sample as soon as possible after suitable conditions occur and shall document the reason for delay.

(e) The owner or operator shall report the results of the discharge event to the department within fourteen days of occurrence. The report shall, at a minimum, contain the sample results, describe the reason for the discharge, the location, estimate of quantity and duration of the discharge, and duration of the precipitation leading up to the event, any measures taken to clean up and eliminate the discharge, and copies of land application records. Laboratory results not available at the time of the report submitted shall be submitted to the department within five days of receipt.

If the ammonia nitrogen level in a water quality sample is determined to be twenty-six mg/L or greater in the discharge at the point it enters waters of the state, then additional surface application of manure to frozen and/or snow covered ground is prohibited on the field where the runoff event occurred.



(g) In the event that an owner or operator complies with all of the requirements of paragraph (G) of this rule and runoff enters waters of the state resulting in ammonia nitrogen level in a sample determined to be twenty-six mg\L or greater in three application events authorized in accordance with paragraph (G)(1)(a) of this rule, then additional surface application of manure to frozen and/or snow covered ground shall be prohibited for the duration of the permit.

(h) In the event that the owner or operator fails to comply with the land application requirements for frozen or snow covered ground, including but not limited to prior notice, and approval for each application pursuant to paragraph (G)(1)(a) of this rule, notice of discharge, monitoring and record keeping, for more than two surface land application events, then land application on any frozen or snow-covered ground shall be prohibited for that owner or operator for the duration of the permit upon receipt of a third notice of deficiencies resulting in noncompliance pursuant to section 903.17 of the Revised Code.

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## **901:10-2-15 Manure management plan and the plan for the disposal of dead livestock.**

manure management plan shall include a plan for the disposal of dead livestock. The plan shall include best management practices for burning, burial, rendering, composting, or other methods consistent with sections 941.14 , 953.26 , and 1511.022 of the Revised Code. In the alternative, the owner or operator may choose to follow the requirements set forth in section 3734.02 of the Revised Code and rules promulgated thereunder. Records for implementing the plan for the disposal of dead livestock shall be included in the operating record set forth in rule 901:10-2-16 of the Administrative Code.

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## **901:10-2-16 Permit to operate and operating record requirements.**

(A) An operating record shall be generated as part of the permit to operate and NPDES permit.

ne operating records shall be maintained on forms identified by the permit and other forms approved for use by the department. The operating record shall be retained for a minimum period of five years, shall be made available to the director upon request, and shall record and document the following information:

(1) The manure storage or treatment facility. Records required by rule 901:10-2-08 or 901:10-2-19 of the Administrative Code, including:

(a) Measurements of manure volume and the depth of liquid manure in manure storage or treatment facilities by the depth marker or other appropriate device as approved by the director in accordance with rule 901:10-2-06 of the Administrative Code as required by paragraph (A)(4)(o) of rule 901:10-2-08 of the Administrative Code which clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the twenty-five year, twenty-four hour rainfall event, or, in the case of new sources subject to the requirement in paragraph (C) of rule 901:10-3-06 of the Administrative Code, the runoff and direct precipitation from a one-hundred year, twenty-four hour rainfall event, plus the levels of freeboard as required in either paragraph (A)(4)(a) or paragraph (A)(4)(b) of rule 901:10-2-08 of the Administrative Code;

(b) Records of inspections of the structural integrity and vegetative management systems of the manure storage or treatment facility taken at intervals specified in the manure management plan and including evidence of erosion, leakage, animal damage, and problems of emerging vegetation..

) Records of measurements of storage capacity remaining in the manure storage and treatment facility, based upon inspections conducted at intervals specified in the manure management plan.

(d) Records of inspections of stormwater conveyances, diversion devices, runoff diversion structures, and devices channeling contaminated stormwater to the manure storage pond or manure treatment lagoon..

(e) Records of inspections of the protective vegetative cover that is maintained on all disturbed areas (lagoon or pond embankments, berms, pipe runs, erosion control areas, etc.)

(f) Implementation dates of those best management practices necessary to operate and maintain settling basins, grass filtration or soil infiltration systems or diverting clean water and roof water away from the production area..

(g) Records of groundwater sampling and analysis and any surface water sampling and analysis. This also includes any records associated with monitoring or sampling of subsurface perimeter drains around manure storage or treatment facilities.

(h) Records required in rule 901:10-2-19 of the Administrative Code for the insect and rodent control plan.

(i) Records of inspections of water lines located above ground and readily accessible or visible for daily inspection, including drinking water or cooling water lines.

(j) Records of actions taken to correct any deficiencies found as a result of inspections conducted in the production area. If actions were not taken within thirty days of discovery, then the operating record shall record the reasons explaining why corrections could not be made immediately.

(k) Records documenting the current design of any manure storage or treatment facility including volume

for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity.

(l) Records of the date, time, and estimated volume of any overflow or discharge from the production area.

(2) Manure characterization data, test methods, results, and other information as required in paragraph (E) of rule 901:10-2-10 of the Administrative Code.

(3) Land application area records shall be recorded and maintained in the operating record. Records for each land application area shall include:

(a) The owner or operator shall maintain or have access to adequate land application equipment and record this in the operating record.

(b) The owner or operator shall list or otherwise describe those acres of land in the operating record for land application of manure, whether the land is owned or leased. In the alternative, use of a distribution and utilization plan should be recorded in the operating record.

(c) When liquid manure is applied to a land application area with subsurface drains and concentrated flow areas, document the periodic observations of the subsurface drain outlets and concentrated flow areas for liquid manure flow during and after application in the operating record.

(d) When liquid manure is applied to a land application area with a subsurface drain, document the use of drain outlet plugs or other devices in the operating record.

(e) Land application areas as described on a soil survey map.

(f) All soil tests within the last five years. Soil test results shall be maintained in the operating record with the information required in rule 901:10-2-13 of the Administrative Code.

(g) Site inspections to inspect setbacks used to maintain vegetative cover and protect stream channels or areas adjacent to such stream channels and as required by rule 901:10-2-14 of the Administrative Code.

(h) Records of the cropping schedule for each land application area for the past year, anticipated crops for the current year, and anticipated crops for the next two years after the current year.

(i) Targeted crop yield for each crop in each land application area based on:

(i) Soil productivity information;

(ii) Historical yield data;

(iii) Potential yield; or

(iv) Combinations of yield data.

(j) An additional ten per cent may be added to the potential and/or historical yields to account for improvements in management and technology.

When historical yield data is not available a realistic yield may be based on local research or on yields from similar soils and/or cropping systems in the area.

(ii) For new or potential crops or varieties, industry yield estimates may be used until actual yields are

available for documentation in the operating record.

(k) Actual yield, if available.

(l) Results of the nitrogen leaching risk assessment procedure and the phosphorus soil test assessment procedure and an explanation of the basis for determining manure application rates, as provided in rule 901:10-2-14 of the Administrative Code.

(m) The number of years needed to reach one hundred fifty parts per million Bray P1 or equivalent if manure application rates exceed the phosphorus crop removal rates.

(n) Date, rate, quantity and method of application of the nutrient, and/or form and source of manure, commercial fertilizer and/or other organic by-products.

(o) Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied.

(p) Condition of soil at the time of application including, but not limited to, available water capacity and evidence of soil cracks and related information on soil conditions.

(q) Temperature, including general weather conditions at time of application and for twenty-four hours prior to and following application..

(r) Implementation dates of those best management practices necessary to reduce the risk of nitrogen or phosphorus runoff by crop rotation, cover crops or residue management in accordance with paragraphs (B) to (E) of rule 901:10-2-14 of the Administrative Code.

(s) Record the annual projected nutrient budget for nitrogen and phosphorus for each site for the plant production sequence and/or crop rotation.

(t) Records shall be maintained of annual calibration of land application equipment.

(4) Unless otherwise recorded with the insect and rodent control plan implementation or land application records, records of inspections and actions taken at manure stockpile or manure transfer sites.

(5) The records for implementation of distribution and utilization methods, if used, shall include:

(a) Quantity of manure transferred off-site for each twelve month period (tons/gallons);

(b) Date of off-site transfer for distribution;

(c) Name and address of recipient of manure; and

(d) Record that the recipient was provided with a copy of the appendices A, B and F to rule 901:10-2-14 of the Administrative Code, a copy of the most recent manure analysis consistent with the rules.

(6) Disposal of dead livestock. The records for implementing the plan for the disposal of dead livestock shall include, but not be limited to:

(a) The disposal method used for removal of dead livestock;

(b) A record of the date and time of inspection of each facility; and

(c) Those best management practices necessary to implement the disposal of dead livestock.

(B) Records shall be generated by certified livestock managers to comply with the requirements of rule 901:10-1-06 of the Administrative Code. The operating records shall be maintained on forms approved for use by the department. A certified livestock manager employed by a major concentrated animal feeding facility may use the major concentrated animal feeding facility's operating record to comply with the requirements of this rule and rule 901:10-1-06 of the Administrative Code, to the extent the records required to be kept by the certified livestock manager are already maintained in the facility's operating record. The operating record for a certified livestock manager shall be retained for a minimum period of five years, shall be made available to the director upon request, and shall record and document the following information:

(1) Records shall be maintained for each land application area.

(2) The certified livestock manager shall list or otherwise describe the acres of land for land application of manure.

(3) When liquid manure is applied to a land application area with subsurface drains and concentrated flow areas, documentation shall be made of the periodic observations of subsurface drains, drain outlet plugs, drain outlets or other devices for liquid manure flow during and after application in the operating record. Monitoring of concentrated flow areas during and after application shall also be documented.

(4) All soil tests within the last five years. Soil test results shall be maintained in the operating record with the information required in rule 901:10-2-13 of the Administrative Code.

(5) Site inspections to inspect setbacks used to maintain vegetative cover and protect stream channels or areas adjacent to such stream channels and as required by rule 901:10-2-14 of the Administrative Code.

(6) Date, rate, quantity and method of application sources of the nitrogen and phosphorus, and/or form and source of manure, commercial fertilizer and/or other organic by-products.

(7) Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied.

(8) Condition of soil at the time of application including, but not limited to, available water capacity and evidence of soil cracks and related information on soil conditions.

(9) Temperature, including general weather conditions at time of application and for twenty-four hours prior to and following application.

(10) Records shall be maintained of annual calibration of land application equipment.

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Prior Effective Dates: 1/23/2009, 9/15/2005, 7/2/2002



## **901:10-2-17 Emergency response plan.**

(A) An emergency response plan shall include, but is not limited to the following:

(1) The names and telephone numbers of persons who are identified by the owner or operator as responsible for implementing the plan.

(2) Areas of the facility where potential spills can occur and their accompanying surface and subsurface drainage points.

(3) Procedures to be followed in the event of a spill, including actual or imminent discharge to waters of the state:

(a) Actions to contain or manage the spill;

(b) Identification of proper authorities to be contacted;

(c) Actions to mitigate any adverse effects of a spill; and

(d) Identification of equipment and clean-up materials to be used in the event of a spill.

(4) Procedures for reporting.

(a) The owner or operator shall report by telephone to the department as soon as possible, but in no case more than twenty-four hours following first knowledge of the occurrence of the following:

(i) The times at which the discharge or manure spill occurred and was discovered;

(ii) The approximate amount and the characteristics of the discharge or manure spillage;

(iii) The waters of the state affected by the discharge or spillage;

(iv) The circumstances which created the discharge or spillage;

(v) The names and telephone numbers of persons who have knowledge of these circumstances;

(vi) Those steps being taken to clean up the discharge or spillage; and

(vii) The names and telephone numbers of persons responsible for the cleanup.

(b) For any emergency that requires immediate reporting after normal business hours, contact the Ohio department of agriculture's emergency telephone number.

(c) If applicable, the owner or operator shall notify appropriate local authorities.

(d) The owner or operator shall also file a written report of the occurrence in letter form within five days following first knowledge of the occurrence, unless the director allows an extension of time or waives the reporting requirement. This report shall outline the actions taken or proposed to be taken to correct the problem and to ensure that the problem does not recur.

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, 903.10

Prior Effective Dates: 7/2/2002, 9/15/2005

## **901:10-2-18 Closure plan requirements.**

(A) The owner or operator of a facility need not seek continued permit coverage under a permit to operate or reapply for a permit to operate, if the facility is no longer a concentrated animal feeding facility, or if the facility is no longer required to maintain permit coverage in the permit program in accordance with section 903.082 of the Revised Code. The owner or operator of a concentrated animal feeding operation need not reapply for an NPDES permit if the concentrated animal feeding operation will not discharge or propose to discharge upon expiration of the NPDES permit.

(B) Permittees who plan to end permit coverage must submit a closure plan. The owner or operator shall notify the director in writing and allow the director an opportunity to inspect the facility to verify that a permit is no longer required and that the facility is closed for purposes of Chapter 903. of the Revised Code and in accordance this rule. Thereafter, the director will notify the owner or operator in writing that the facility is closed in accordance with this rule.

(1) If all of a concentrated animal feeding facility or a concentrated animal feeding operation will be closed or discontinued, the owner or operator shall implement a closure plan for all of the concentrated animal feeding facility or concentrated animal feeding operation. At least ninety days before closure, the owner or operator shall submit a closure plan for the director's approval that provides for the following:

(a) Implementation of best management practices during closure.

(b) Removal of all manure from the manure storage or treatment facilities.

(c) Removal of all associated appurtenances and conveyance structures from liquid manure storage or treatment facilities.

(d) Land application of the manure in accordance with rule 901:10-2-14 of the Administrative Code or disposal in another manner allowed by this chapter.

(e) If a manure storage or treatment facility will be filled with soil or if it will be demolished, the director may require a complete description or outline for the plan and specifications that will be required for this type of closure.

(2) If the design capacity of the facility will be reduced so that the facility is no longer required to be covered under a permit to operate or an NPDES permit, because of closure of animal housing buildings, then the owner or operator shall, at least ninety days before such closure, submit for the director's approval, and thereafter shall implement, a closure plan that provides for the following:

(a) Implementation of best management practices during closure.

(b) A detailed explanation of how the design capacity of the facility will be reduced. This explanation would include information such as, but not limited to: a description of the reduction of animals per cage, pen, lot or barn, reason for reduction, assurance that the reduction is intended to be permanent in nature and any other information that is deemed necessary by the director in order to explain the closure of the facility.

(c) Any other action necessary to prevent a discharge of manure that was generated while the operation is a concentrated animal feeding operation, other than agricultural stormwater from application areas.

(3) If the design capacity of the facility will be reduced so that the facility is no longer required to be covered under a permit to operate or an NPDES permit, but there will be no actual closure of any housing

buildings or of a manure storage or treatment facility, then the owner or operator shall, at least ninety days before such closure, submit for the director's approval, and thereafter shall implement, a closure plan that provides for the following:

(i) Implementation of best management practices during closure.

(b) A detailed explanation of how the design capacity of the facility will be reduced without any closure of a housing building. This explanation would include information such as, but not limited to: a description of the reduction of animals per cage, pen, lot or barn, reason for reduction, assurance that the reduction is intended to be permanent in nature and any other information that is deemed necessary by the director in order to explain the closure of the facility.

(c) If a closure of the facility involves a part of the facility being transferred to a different owner, then the owner or operator of the permitted facility must provide the following:

(i) A copy of a revised site map showing new property lines and new ownership of each lot;

(ii) A copy of any new deed;

(iii) Documentation that demonstrates how the facility, after the land transfer, will not continue to meet the definition of either a concentrated animal feeding facility or a concentrated animal feeding operation.

(d) Any other action necessary to prevent a discharge of manure that was generated while the operation was a concentrated animal feeding operation, other than agricultural stormwater from application areas.

(C) If a permittee seeks to close permanently a manure storage or treatment facility or to close the entire facility temporarily without terminating permit coverage, the permittee must submit a closure plan. The owner or operator shall notify the director in writing and allow the director an opportunity to inspect the facility to verify that the facility or a portion of the facility is closed for purposes of Chapter 903. of the Revised Code and in accordance this rule. Thereafter, the director will notify the owner or operator in writing that the facility is closed in accordance with this rule.

(1) If all or part of a manure storage or treatment facility at a concentrated animal feeding facility or a concentrated animal feeding operation will be closed or discontinued, the owner or operator shall implement a closure plan for all or part of the manure storage or treatment facility. At least ninety days before closure, the owner or operator shall submit such a closure plan for the director's approval that provides for the following:

(a) Implementation of best management practices during closure.

(b) Removal of all manure from the discontinued portions of the manure storage or treatment facility.

(c) Removal of all associated appurtenances and conveyance structures from discontinued liquid manure storage or treatment facilities.

(d) Land application of the manure in accordance with rule 901:10-2-14 of the Administrative Code or disposal in another manner allowed by this chapter.

(e) Calculations showing the remaining manure storage and days of storage for the facility that would allow for compliance with the permit to operate or NPDES permit, or Chapter 901:10-2 of the Administrative Code.

(f) If a manure storage or treatment facility will be filled with soil or if it will be demolished, the director may

require a complete description or outline for the plan and specifications that will be required for this type of closure.

(2) If a concentrated animal feeding facility or a concentrated animal feeding operation is to be temporarily used or discontinued, the owner or operator shall implement a closure plan that addresses the temporary closure of the facility. At least ninety days before closure, the owner or operator shall submit such a closure plan for the director's approval that provides for the following:

(a) Implementation of best management practices during closure.

(b) Removal of manure from the manure storage or treatment facilities.

(c) Land application of the manure in accordance with rule 901:10-2-14 of the Administrative Code or disposal in another manner allowed by this chapter.

(d) Calculations showing the remaining manure storage and days of storage for the facility that would allow for compliance with the permit to operate or NPDES permit, or Chapter 901:10-2 of the Administrative Code.

(e) Any other action necessary to prevent a discharge of manure during the time of the temporary closure, other than agricultural stormwater from application areas.

(3) If the closure would constitute a modification as defined in rule 901:10-1-01 of the Administrative Code, the owner or operator shall apply for a permit modification removing the closed portions of the facility from the permit and recalculating the storage volume for the facility. If applicable, the owner or operator shall also submit an application for a permit to install.

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## **901:10-2-19 Permit to operate: insect and rodent control plan.**

### **(A) Purpose and applicability.**

(1) This rule establishes the best management practices to minimize the presence and negative effects of insects and rodents at the concentrated animal feeding facility and in surrounding areas, including land on which the manure is stored or applied. Subject to the requirements set forth in rules 901:10-2-07 and 901:10-2-08 of the Administrative Code, and rule 901:10-1-06 of the Administrative Code no person shall own or operate a concentrated animal feeding facility unless an insect and rodent control plan for the facility has been approved by the director.

(2) An insect and rodent control plan that specifies plans to minimize the activity of insects and rodents and their presence at the facility is to be integrated with other requirements of the permit to operate in accordance as set forth in rules 901:10-2-07 to 901-10-2-19 of the Administrative Code.

### **(B) Contents of an insect and rodent control plan.**

(1) An insect and rodent control plan shall be prepared by the owner or operator and shall be submitted to the director for approval. Upon approval by the director, the insect and rodent control plan shall be incorporated into the permit to operate. The insect and rodent control plan shall be specific to the agricultural animal species of the facility.

(2) An insect and rodent control plan shall:

(a) Include a narrative description of balanced integrated pest management to minimize the presence and negative effects of insects and rodents;

(b) Set forth with specificity the standard operating procedures for actions to minimize the activity and reduce the presence of insects and rodents at the facility; and

(c) Set forth methods of monitoring and procedures for record keeping in the operating record to document inspection results and actions performed.

(3) Standard operating procedures set forth in paragraphs (B)(3)(a) to (B)(3)(d) and paragraph (C) of this rule set forth some but not all of the necessary integrated pest management actions to minimize the activity and reduce the presence of insects and rodents at the facility.

(a) Management controls. The following management controls require regular inspections to be conducted by the owner or operator in intervals as described in the insect and rodent control plans. Monitoring records and inspection records shall be maintained in the operating record as required by rule 901:10-2-16 of the Administrative Code. Management controls consist of the following:

(i) The owner or operator shall specify inspection intervals in the insect and rodent control plan and shall conduct and document inspections as specified in the plan.

(ii) The owner or operator shall inspect for the presence or absence of watering and feeding system leaks. If any leaks are detected, appropriate repairs shall be undertaken promptly.

(iii) The owner or operator shall inspect and record observations made regarding the presence and level of pest activity. Appropriate control actions shall be undertaken promptly when activity of insects and rodents is observed that requires actions as described in the plan required by paragraph (B)(2) of this rule.



(iv) The owner or operator shall manage moisture levels in manure to minimize the activity and reduce the presence of insects and rodents at the facility. Methods to control moisture may include but are not limited to: building design; adequate ventilation; mechanical aeration; leak detection and repair; proper site grading and drainage and maintenance of watering and feeding systems.

(v) Except for manure storage ponds and manure treatment lagoons, manure storage or treatment facilities shall be covered unless the runoff and drainage is collected and stored, or directed to a specifically designed infiltration area or other adequate treatment system. Appropriate control actions shall be undertaken prior to the removal of manure to minimize the activity and reduce the presence of insects and rodents at the facility.

(vi) Except for manure storage ponds and manure treatment lagoons, the owner or operator shall inspect manure storage or treatment facilities for pest activity prior to the removal of manure. Appropriate control actions shall be undertaken prior to the removal of manure to minimize the activity and reduce the presence of insects and rodents.

(vii) The owner or operator shall inspect land application areas during and after the land application of manure.

(viii) The owner or operator shall monitor manure stockpiles for insect and rodent activity on a seasonally appropriate basis.

(b) The following management actions are required but do not require record keeping and consist of the following:

(i) Maintain sanitation procedures designed to minimize the activity and reduce the presence of insects and rodents including: maintenance of vegetation around the buildings; cleaning of the facility; removal of dead or trapped animals at a frequency that prevents their accumulation and utilization of covered receptacles for food, feed, dead animals or refuse that are durable, cleanable, inaccessible to insects or rodents, leak proof and nonabsorbent;

(ii) Buildings shall be maintained and managed in such a manner as to minimize the activity and reduce the presence of insects and rodents. The director may consider the function, purpose and age of the buildings;

(iii) The owner or operator shall maintain or have prompt access to appropriate insect and rodent control equipment;

(iv) The owner or operator shall maintain or have prompt access to suitable cleaning implements and supplies as necessary for effective cleaning of the facility; and

(v) The owner or operator shall maintain or have prompt access to insect and rodent monitoring methods and devices.

(c) Biological controls may be used to minimize the activity and reduce the presence of insects and rodents as part of integrated pest management. Biological controls shall include standard operating procedures designed to encourage the development and preservation of beneficial organisms.

Beneficial organisms may be appropriate when contained within the facility but may not be appropriate when removed from the facility. Prior to manure removal, the owner or operator is advised to evaluate the potential effects of beneficial organisms outside of the facility, e.g., at any site used for land application of manure

(d) Chemical controls may be used to minimize the activity and reduce the presence of insects and rodents as part of integrated pest management.

Utilization of chemical controls may require, but not be limited to, asking the owner or operator to become certified pest control applicator and keep accurate records on methods or products used and on dosage rates under Chapter 921. of the Revised Code

(e) Utilization of chemical controls may include, but not be limited to the following:

(i) Insecticides, larvicides, rodenticides, space sprays, fly baits, vapor strips;

(ii) Chemical application equipment; and

(iii) Inside and outside control measures.

(C) Storing, stockpiling and land applying manure.

(1) The insect and rodent control plan shall be consistent with the manure management plan in order to minimize the activity and reduce the presence of insects and rodents at the facility and shall include both the manure storage or treatment facility and the land application area.

(2) The storing, stockpiling and land application of manure shall be done in accordance with standard operating procedures set forth in this paragraph and in the owner or operator's insect and rodent control plan in order to minimize the activity and reduce the presence of insects and rodents. These standard operating procedures may include but are not limited to:

(a) Treatment of pests at the land application site;

(b) Setback distances during land application that are consistent with the manure management plan for the facility and with rule 901:10-2-14 of the Administrative Code;

(c) Extended stockpiling times after removal from the facility for thermal treatment and prior to land application;

(d) Covering of the manure storage or treatment facility or covering the stockpile for thermal treatment;

(e) Implementing appropriate control measures for manure staged or stockpiled more than one week; and

(f) Chemical treatment of the manure at the facility prior to the removal of manure from the manure storage or treatment facility, monitoring and observing fields spread with that manure for pest activity during application, and a final inspection of those fields when applications are complete;

(g) If the presence of insect and rodent activity is not minimized and/or reduced prior to the removal of manure from the manure storage or treatment facility, the owner or operator shall visually monitor and observe fields spread with that manure for pest activity during application and shall conduct a final inspection of those fields when applications are complete.

(D) Emergency procedures. Each facility shall develop and maintain emergency procedures of action in order to minimize the activity and reduce the presence of insects and rodents at the facility.

(F) Compliance. Compliance with an insect and rodent control plan shall be determined as follows:

(1) Before proceeding with the procedures set forth in rule 901:10-5-03 of the Administrative Code, the director shall review the operating record, together with the insect and rodent control plan, examine any

records of management actions taken, records of implementation of standard operating procedures and other appropriate control actions, and any monitoring data collected in the operating record.

(2) The director shall determine if insect and rodent activity has been minimized and the presence of the insects and rodents reduced by evaluating the records and assessing trends and making visual observations at the facility as evidenced by implementation of the insect and rodent control plan over an appropriate period of time and during periodic inspections at the facility. In making this determination for an appropriate period of time, consideration will be given, but not limited to the following: prevailing wind patterns, siting criteria, precipitation patterns, seasonal effects and weather conditions.

(3) Upon completion of the evaluation described in paragraphs (E)(1) and (E)(2) of this rule, the director may do the following:

(a) If the owner or operator is in compliance with the plan, the director may seek voluntary action by the owner or operator to modify the insect and rodent control plan including but not limited to further minimizing and reducing the activity and presence of insects and/or rodents at the facility; or

(b) If the owner or operator will not consent to modifying the plan, or if the owner or operator is not in compliance with the plan, then the director may propose to modify the insect and rodent control plan or the owner or operator may submit an application to modify the plan, in accordance with the procedures in rule 901:10-1-09 of the Administrative Code.

(4) The director is not required to comply with paragraphs (E)(1) to (E)(3) of this rule if the director determines:

(a) An emergency exists as described in rule 901:10-5-05 of the Administrative Code; or

(b) In consultation with federal, state or local health agencies, the director determines that there exists a high risk of zoonotic disease.

(F) Criteria for approving, disapproving or modifying an insect and rodent control plan including any major operational change to an insect and rodent control plan..

(1) The director shall consider the following criteria in determining an action on an insect and rodent control plan:

(a) Compliance with paragraphs (B) to (D) of this rule.

(b) Completeness and appropriateness of the methods for disposal of rodents on a daily or weekly basis or if there is an emergency. The director will require compliance with rule 901:10-2-15 of the Administrative Code.

(c) In order to comply with rule 901:10-1-09 of the Administrative Code for any proposed major operational change of the insect and rodent control plan, the owner or operator shall:

(i) Demonstrate that insect and rodent activity has been minimized; or

(ii) Demonstrate that the proposed major operational change will improve the management of pests; and

(3) Authorize the director or the director's representative to evaluate the operating records and assess trends and make visual observations at the facility of implementation of the insect and rodent control plan over an appropriate period of time and during periodic inspections at the facility. In making a determination under this paragraph and rule 901:10-1-09 of the Administrative Code, the director may

consider the following: prevailing wind patterns, siting criteria, precipitation patterns, seasonal effects, weather conditions, and applicable scientific and technical references for monitoring and control of insect and rodent populations.

2) The director must act upon, approve or deny an insect and rodent control plan within ninety days of receiving it.

(G) Penalties. The director or his designated representative will determine civil penalties for violations of this rule in accordance with the rule 901:10-5-04 of the Administrative Code.

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## **901:10-2-20 Annual report.**

The owner or operator of a concentrated animal feeding operation with a permit must submit an annual report to the director. The annual report must include:

(A) The number and type of animals, whether in open confinement or housed under roof

(beef cattle, broilers, layers, chickens other than laying hens, swine weighing fifty-five pounds or more, swine weighing less than fifty-five pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, other);

(B) Estimated amount of total manure generated by the facility in the previous twelve months (tons/gallons);

(C) Provide the amount of total manure transferred to other persons by the facility as recorded in the operating record in accordance with rule 901:10-2-11 of the Administrative Code;

(D) Total number of acres for land application covered by the manure management plan developed in accordance with rule 901:10-2-07 of the Administrative Code;

(E) Total number of acres under control of the facility that were used for land application of manure in the previous twelve months;

(F) Summary of all manure discharges from the production area that have occurred in the previous twelve months, including date, time, and approximate volume; and

(G) A statement indicating whether the current version of the facility's manure management plan was developed or approved by a certified nutrient management planner.

(H) For NPDES permit annual reports, the actual crop(s) planted and actual yield(s) for each land application area under the control of the facility, the actual nitrogen and phosphorus content of the manure from each manure storage or treatment facility, the results of calculations conducted in accordance with paragraph (D)(1)(g)(ix) of rule 901:10-3-01 of the Administrative Code, the amount of manure applied to each land application area under the control of the facility during the previous twelve months, the results of any soil testing for nitrogen and phosphorus taken during the preceding twelve months, the data used in calculations conducted in accordance with paragraph (D)(1)(g)(ix) of rule 901:10-3-01 of the Administrative Code, and the amount of any supplemental fertilizer applied during the previous twelve months.

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